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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/973,305 04/09/98 LEIJON

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JOHN P. DELUCA
WATSON COLE GRINDLE WATSON
1400 K STREET NW
SUITE 1000
WASHINGTON DC 20005-2477

EXAMINER

ENAD, E

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

05/18/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/973,305

Applicant(s)
Leijon et al.

Examiner
Enad, Elvin

Group Art Unit
2834



☒ Responsive to communication(s) filed on Mar 17, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-9, 11-35, and 39-47 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-9, 11-35, and 39-47 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 2,3 and 6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2,3 and 6, the use of the term "substantially" is indefinite since there is no means provided to determine how much the potential of the semiconducting layer in relation to the conductor or the coefficient of thermal expansion of the solid insulation would be in order for them to be "substantially the same". In addition, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Applicant's arguments filed on March 17, 2000, have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-6,8,9,11-13,15,16,18,19,21,22,25-27,29-35 and 39-47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 5,036,165).

Shildneck discloses the claimed invention except for utilizing a cable winding comprising of at least one semiconducting layer around the conductor. Shildneck discloses a direct cooled cable winding for an electromagnetic device such as a large turbine-driven generator. In column 2, lines 39-72, Shildneck teaches several advantages of the use of cable windings over conventional rectangular bars such as conductor flexibility and having shorter length of the conductor end-turn portions.

Elton et al. disclose an electrical cable provided with an internal grading layer of semi-conducting pyrolyzed glass fiber layer in electrical contact with a cable conductor. In an alternate embodiment, Elton et al. disclose an electrical cable provided with an exterior layer of internal grading layer of semi-conducting pyrolyzed glass fiber layer in contact with an exterior cable insulator having a predetermined reference potential. Furthermore, note that Elton et al. teach that it is known to provide a semiconducting layer in the insulation of a conductor and to connect that layer to a fixed potential in order to provide an equipotential surface on the conductor preventing corona discharge around the conductors.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the cable winding as taught by Elton et al. to the dynamo electric machine of Shildneck since such a modification according to Elton et al. would prohibit the development

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of corona discharge. Elton et al. further teach in column 2, lines 42-48 that having a semiconducting layer would bleed off any static electric discharge or electric discharge developed on the exterior surface of the insulation.

4. In regard to forming the semiconducting layer with the same coefficient of thermal expansion as that of the insulation layer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed these layers with similar coefficients since it was known in the art that the expansion rate of the two layers would be the same and this is desirable in order to prevent cracking of the insulation and wear between the two.

5. In regard to the various grounding methodologies for use with the system, as recited in claims 12,13,15,16,18,19,21,22,26-28, the choice of the particular configuration would have been an obvious matter of design choice, the selection contingent upon the requirements of the application. For instance, parameters such as high resistance grounding, resonant or inductive grounding are commonly known alternatives. Examples of commonly known grounding techniques are described in IEEE C62.92-1989, IEEE Guide for the Application Of Neutral Grounding in Electrical Systems, Part II. (IEEE, New York, USA, September 1989).

6. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 5,036,165) in view of Takaoka et al. (USP 5,094,703).

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Shildneck and Elton et al. disclose the claimed invention except for a teaching of having the generator with windings comprising a plurality of insulated conductive elements and an at least one uninsulated conductive elements.

Takaoka et al., as seen in figures 7,8,10 and 11 teach having a stranded conductor for an electrical cable comprising a combination of uninsulated stranded conductor and an insulated stranded conductor.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the windings of Elton et al. comprised of insulated and uninsulated electrical conductor strands as taught by Takaoka et al. since such a modification according to Takaoka et al. would reduce the amount of insulation needed and the number of electrical connections required in the end windings.

7. Claims 14,17,20,23,24 and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shildneck (USP 3,014,139) in view of Elton et al. (USP 5,036,165) and further in view Lauw (USP 4,982,147).

Shildneck and Elton et al. disclose the claimed invention except for a teaching of having or not having a step-up transformer in the system device.

Lauw in column 6, lines 50-52 teach that use of transformers to step-up or step down the voltage are contingent upon the requirement of the application. In this instant application, having the operating voltages in the range higher than 30kV-36kV, it would have been an obvious matter

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of design choice to one having ordinary skill in the art to utilize a step-up transformer in order to increase and meet the required voltage in the application.

Response to Arguments

8. Applicant's arguments filed on March 17, 2000, have been fully considered but they are not persuasive. In response to applicant's primary argument that Elton et al. do not suggest the use of cable in a dynamo electric machine, Shildneck has been cited to show that it is known to use cable winding in a dynamo electric machine operating at high voltages.

Moreover, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvin Enad whose telephone number is (703) 308-7619. The examiner can normally be reached on Monday-Friday from 8:00AM to 4:00PM.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez, can be reached on (703) 308-1371. The fax phone number for this Tech Center group is (703) 305-3431(32).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Elvin Enad
Primary Examiner
Art Unit 2834
05.16.2000